

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-40 (canceled)

Claim 41 (currently amended): A method of screening a chemical agent for the ability of the chemical agent to modify sodium channel function, said method comprising:

introducing an isolated nucleic acid molecule encoding a voltage-sensitive sodium channel of *Musca domestica*, wherein said nucleic acid molecule hybridizes to a nucleic acid molecule having a nucleotide sequence according to ~~bases 1 to 1011 or 1321 to 5030 of SEQ. ID. Nos. SEQ ID NOS:~~ ^{eukaryotic} 1 or 2 at 42°C, with 5 x SSPC and 50 percent formamide with washing at 65°C with 0.5 x SSPC into a host cell;

expressing said voltage-sensitive sodium channel encoded by said nucleic acid molecule in the host cell so as to result in the functional expression of a voltage-sensitive sodium channel in the host cell;

exposing the host cell to a chemical agent; and

evaluating the exposed host cell to determine if the chemical agent modifies the function of the voltage-sensitive sodium channel.

Claim 42 (original): The method of claim 41 wherein the cell is a *Xenopus* oocyte.

Claim 43 (original): The method of claim 41 wherein the cell is an insect cell line.

Claim 44 (original): The method of claim 43 wherein said insect cell line is selected from the group consisting of a *Drosophila Schneider* cell line, a *Drosophila Kc* cell line, an Sf9 cell line, and a High Five® cell line.

Claim 45 (original): The method of claim 41 wherein said evaluation comprises monitoring sodium transport through said voltage-sensitive sodium channel.

Claim 46 (original): The method of claim 41 wherein said evaluation comprises monitoring quainidinium transport through said voltage-sensitive sodium channel.

Claim 47 (currently amended): A method of screening a chemical agent for the ability of the chemical agent to modify sodium channel function, said method comprising:

introducing a first nucleic acid molecule encoding a voltage-sensitive sodium channel of *Musca domestica* and a second nucleic acid molecule encoding a tip E protein into a host cell, wherein said first nucleic acid molecule hybridizes to a nucleic acid molecule having a nucleotide sequence according to ~~bases 1 to 1011 or 1321 to 5030 of SEQ ID Nos.~~ SEQ ID NOS: 1 or 2 at 42°C, with 5 x SSPC and 50 percent formamide with washing at 65°C with 0.5 x SSPC;

allowing said host cell to coexpress said first nucleic acid molecule and said second nucleic acid molecule so as to result in the functional expression of a voltage-sensitive sodium channel in the host cell;

exposing the host cell to a chemical agent; and

evaluating the exposed host cell to determine if the chemical agent modifies the function of the voltage-sensitive sodium channel.

Claim 48 (original): The method of claim 47 wherein the cell is a *Xenopus* oocyte.

Claim 49 (original): The method of claim 47 wherein the cell is an insect cell line.

Claim 50 (original): The method of claim 49 wherein said insect cell line is selected from the group consisting of a *Drosophila Schneider* cell line, a *Drosophila Kc* cell line, an Sf9 cell line, and a High Five® cell line.

Claim 51 (original): The method of claim 47 wherein said evaluation comprises monitoring sodium transport through said voltage-sensitive sodium channel.

Claim 52 (original): The method of claim 47 wherein said evaluation comprises monitoring quainidinium transport through said voltage-sensitive sodium channel.

Claims 53-77 (canceled)

Claim 78 (previously added): The method according to claim 41, wherein said voltage-sensitive sodium channel confers susceptibility to an insecticide in *Musca domestica*.

Claim 79 (previously added): The method according to claim 78, wherein said nucleic acid molecule has a nucleotide sequence as shown in SEQ ID NO:1.

Claim 80 (previously added): The method according to claim 78, wherein said nucleic acid molecule encodes an amino acid sequence as shown in SEQ ID NO:3.

Claim 81 (previously added): The method according to claim 41, wherein said voltage-sensitive sodium channel confers resistance to an insecticide in *Musca domestica*.

Claim 82 (previously added): The method according to claim 81, wherein said nucleic acid molecule has a nucleotide sequence as shown in SEQ ID NO:2.

Claim 83 (previously added): The method according to claim 41, wherein said nucleic acid molecule encodes an amino acid sequence as shown in SEQ ID NO:4.